What is Claimed is:

1. A method for diagnosing cancer in a subject comprising measuring *EEF1A2* gene amplification, *EEF1A2* mRNA levels, or EEF1A2 protein levels or activity in a biological sample obtained from the subject and comparing the measured *EEF1A2* gene amplification, *EEF1A2* mRNA levels, or EEF1A2 protein levels or activity with levels of *EEF1A2* gene amplification, *EEF1A2* mRNA levels, or EEF1A2 protein levels or activity in a control wherein an increase in the measured *EEF1A2* gene amplification, *EEF1A2* mRNA levels, or EEF1A2 protein levels or activity as compared to the control is indicative of the subject having cancer.

2. The method of claim 1 wherein the cancer is ovarian cancer, breast cancer or colorectal cancer.

3. The method of claim 1 wherein the biological sample comprises a serum or plasma sample or a tumor tissue biopsy sample obtained from the subject.

4. A method for prognosticating survival and selecting an effective treatment regime for a patient suffering from cancer comprising measuring *EEF1A2* gene amplification, *EEF1A2* mRNA levels, or EEF1A2 protein levels or activity in a biological sample obtained from the subject.

5. The method of claim 4 wherein the patient is suffering from ovarian, breast or colorectal cancer.

6. The method of claim 4 wherein the biological sample comprises a serum or plasma sample or a tumor tissue biopsy sample obtained from the patient.

7. A kit for prognosticating and/or diagnosing cancer comprising means for measuring *EEF1A2* gene amplification, *EEF1A2* mRNA levels, or EEF1A2 protein levels or activity in a biological sample.

8. A method for inhibiting expression of *EFF1A2* of a tumor cell, comprising contacting the cell with an antisense oligonucleotide which inhibits expression of *EEF1A2* by the cell, wherein a protein encoded by said *EEF1A2* has an amino acid sequence comprising SEQ ID NO:6, and wherein the antisense oligonucleotide specifically inhibits expression of said *EEF1A2* and does not inhibit expression of *EEF1A1*.

9. The method of claim 8, wherein the antisense oligonucleotide interacts in the cell with an mRNA molecule which encodes said EEF1A2 protein such that expression of the protein in the cell is inhibited.

10. The method of claim 8, wherein the antisense oligonucleotide is a ribozyme.

11. The method of claim 8, wherein the tumor cell is an ovarian, breast or colorectal tumor cell.

12. The method of claim 8, further comprising exposing the tumor cell to a therapeutic drug such that growth of the tumor cell is inhibited.

13. The method of claim 12, wherein the therapeutic drug comprises an anthracycline, epipodophyllotoxin, vinca alkaloid, or metallocene, or is cyclophosphamide, methotrexate, fluorouracil, doxorubicin, epirubicin, paclitaxel, cisplatin, or staurosporine.

14. The method of claim 12, wherein the therapeutic drug comprises a taxane.

15. The method of claim 8, wherein the antisense oligonucleotide is included in a recombinant expression vector which permits expression of the antisense oligonucleotide in the cell.

16. The method of claim 8, wherein the antisense oligonucleotide is administered in a viral vector or liposome.

17. The method of claim 8, wherein the antisense oligonucleotide binds to a coding region of a nucleic acid molecule which encodes said EEF1A2 protein.

18. The method of claim 8, wherein the antisense nucleic oligonucleotide binds to a non-coding region of a nucleic acid molecule which encodes said EEF1A2 protein.

19. The method of claim 8, wherein the antisense oligonucleotide is complementary in sequence to a regulatory region of a gene which encodes said EEF1A2 protein.

20. The method of claim 8, wherein the antisense oligonucleotide is complementary in sequence to a transcription initiation region of a gene which encodes said EEF1A2 protein.

21. The method of claim 8, wherein the antisense oligonucleotide is complementary in sequence to a region which precedes or spans the translation initiation codon of a gene which encodes said EEF1A2 protein.

22. The method of claim 8, wherein the antisense oligonucleotide is complementary in sequence to an untranslated region of a mRNA which encodes said EEF1A2 protein.

23. The method of claim 22, wherein the antisense oligonucleotide is complementary in sequence to a 3' untranslated region of the mRNA.

24. A method for treating cancer comprising administering to a patient suffering from cancer an inhibitor of *EEF1A2* expression and/or EEF1A2 activity.

25. The method of claim 24, wherein the inhibitor of *EEF1A2* expression or EEF1A2 activity comprises an antisense oligonucleotide which inhibits expression of an EEF1A2 protein by a tumor cell.

26. The method of claim 24 or 25, further comprising administering a therapeutic drug.

27. The method of claim 26, wherein the therapeutic drug comprises an anthracycline, epipodophyllotoxin, vinca alkaloid, or metallocene, or is cyclophosphamide, methotrexate, fluorouracil, doxorubicin, epirubicin, paclitaxel, cisplatin, or staurosporine.

28. The method of claim 26, wherein the therapeutic drug comprises a taxane.

29. A screening assay to identify new anticancer agents comprising measuring an agent's ability to inhibit *EEF1A2* expression and/or EEF1A2 activity.

30. The screening assay of claim 29 wherein the agent's ability to inhibit *EEF1A2* expression and/or EEF1A2 activity is measured by EEF1A2-mediated enhancement of NIH 3T3 cell growth, EEF1A2-mediated enhancement of protein translation or EEF1A2-mediated microtubule cleavage.